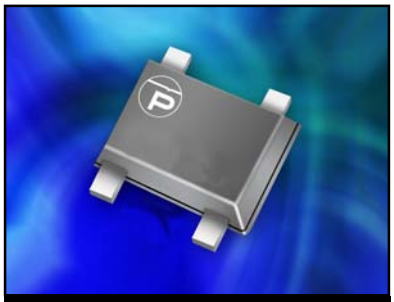
PROTEK DEVICES

USB002

STEERING DIODE ARRAY



SOT-543

APPLICATIONS

✔ USB Interface Ports
✔ Cellular Phones
✔ Video
✔ Handheld Electronics
✔ Personal Computers

IEC COMPATIBILITY (EN61000-4)

✔ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
✔ 61000-4-4 (EFT): 40A - 5/50ns

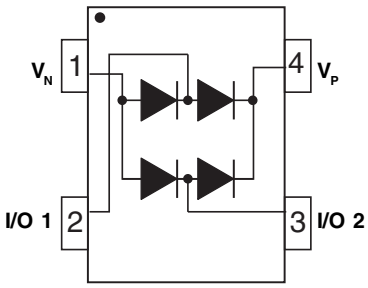
FEATURES

✔ ESD Protection > 40 kilovolts
✔ 225 Milliwatt Continuous Power Dissipation
✔ Provides Two (2) Lines of Protection
✔ Low Leakage Current < 1.0µA
✔ Ultra Low Capacitance: 0.6pF
✔ RoHS Compliant

MECHANICAL CHARACTERISTICS

✔ Molded JEDEC SOT-543
✔ Weight 3 milligrams (Approximate)
✔ Available in Lead-Free Nickel-Paladium-Gold Plating
✔ Solder Reflow Temperature:
Nickel-Paladium-Gold (Ni/Pd/Au) Sn/Ag/Cu: 260-270°C
✔ Flammability Rating UL 94V-0
✔ 8mm Tape and Reel Per EIA Standard 481
✔ Marking: Marking Code

PIN CONFIGURATION



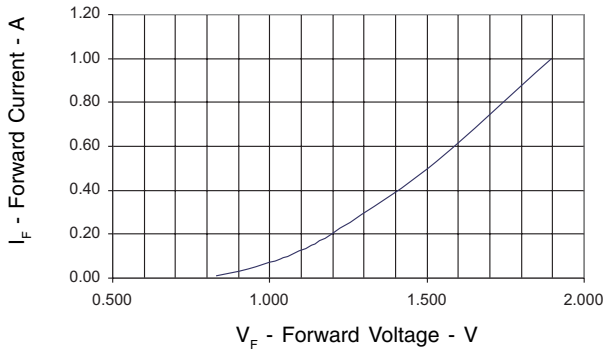
DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	**SYMBOL**	**VALUE**	**UNITS**
Operating Temperature	T_J	-55 to 150	℃
Storage Temperature	T_{STG}	-55 to 150	℃
Continuous Power Dissipation	P_{PC}	225	mW
Repetitive Peak Forward Current @ tp = 5µs, F = 50kHz (Pin 1-2)	I_{FRM}	700	mA

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified					
PART NUMBER	DEVICE MARKING CODE	REPETITIVE PEAK REVERSE VOLTAGE (See Note 1) @ 10µA V_{RRM} VOLTS	MAXIMUM REVERSE LEAKAGE CURRENT (See Note 2) V_{RRM} @ 5V I_R µA	MAXIMUM DIODE FORWARD VOLTAGE @ 10mA V_F VOLTS	MAXIMUM CAPACITANCE (See Note 3) (Between Line-Gnd) C_J pF
USB002	U2	20	1	1.4	0.6

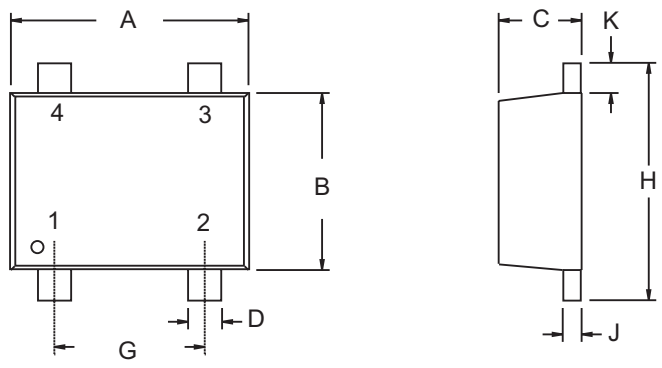
Note 1: V_P - V_N = 20V.
Note 2: V_P - V_N = 5.5V.
Note 3: Between Line and Ground - V_P = 5V, f = 1MHz, $V_{I/O}$ = 2.5V, V_N = 0V.

FIGURE 1
PEAK FORWARD CURRENT VS FORWARD VOLTAGE



SOT-543 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



PACKAGE DIMENSIONS

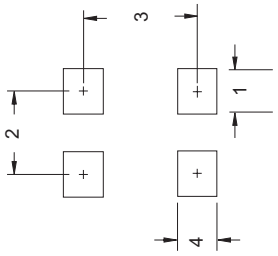
DIM	MILLIMETERS MIN	MILLIMETERS MAX	INCHES MIN	INCHES MAX
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.50	0.60	0.020	0.024
D	0.17	0.27	0.007	0.011
G	0.50 BSC	-	0.020 BSC	-
H	1.50	1.70	0.059	0.067
J	0.08	0.16	0.003	0.007
K	0.10	0.30	0.004	0.012

NOTES

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

MOUNTING PAD

TYPICAL		
DIM	Millimeters	Inches
1	0.30	0.012
2	1.02	0.040
3	1.40	0.055
4	0.51	0.020



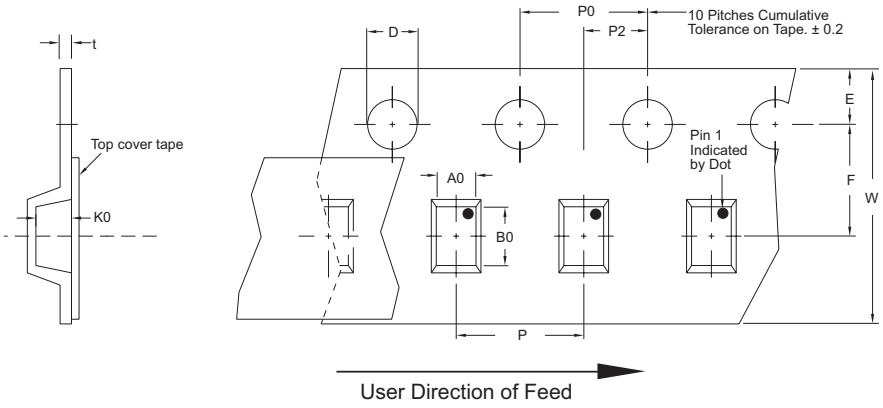
TAPE & REEL ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix-T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., USB002-*T7*.
3. Suffix-T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, i.e., *USB002-T13*.
4. Suffix - LF = Lead-Free Plating, i.e., *USB002-LF-T7*.

Outline & Dimensions: Rev 0 - 1/07, 06070

Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.78 ± 0.05	1.78 ± 0.05	0.69 ± 0.05	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ±0.30	4.00 ±0.10	2.00 ±0.05	4.00 ±0.10	0.25



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